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Brief 71-10081

NASA TECH BRIEF

Manned Spacecraft Center

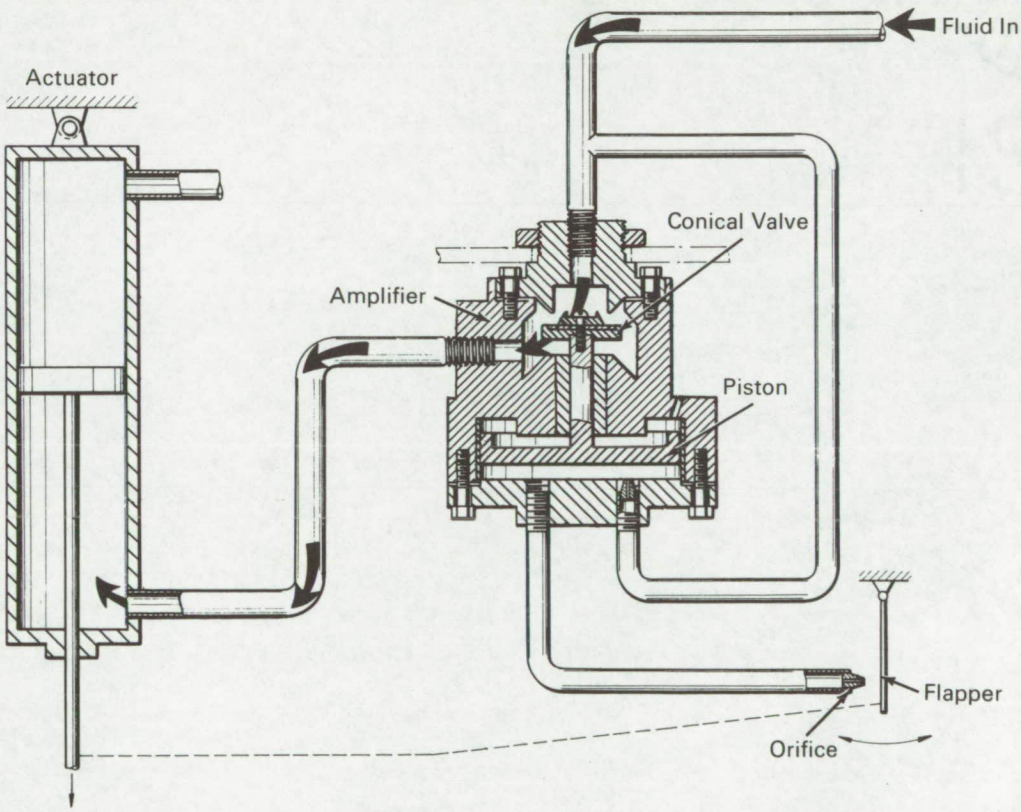
Pneumatic Amplifier Controls High Pressure Fluid Supply

The problem:

To control a high pressure supply of pneumatic fluid with an extremely small force. The pneumatic fluid supply must be isolated from the control pressure.

How it's done:

In a typical application, the load is coupled to the piston rod contained in the actuator portion of the servo system. The vertical position of the rod is determined by the rate of fluid flow passing though the control valve in the amplifier. This rate is determined by the physical position of the flapper element relative to the output from the orifice. Flow from the orifice determines the position of



The solution:

A pneumatic servo system with a pneumatic amplifier containing a novel control valve that provides linear control of the flow rate.

(continued overleaf)

the valve controlling piston. The configuration of the valve seat is so designed that a stable linear flow rate is obtained with a regulated control pressure.

Note:

Requests for further information may be directed to:

Technology Utilization Officer
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Reference: TSP71-10081

Patent status:

This invention is owned by NASA, and a patent application has been filed. Royalty-free nonexclusive licenses for its commercial use will be granted by NASA. Inquiries concerning license rights should be made to:

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